

Remarks/Arguments

Originally filed claims 1-22 remain in this application of which claims 1, 7, 15, 15 and 18-20 now stand rejected. The Examiner has indicated a willingness to allow claims 2-6, 8-13 17, 17, 21 and 22 if written in independent form to incorporate the limitations of their respective parent claim(s). Applicants appreciate the Examiner's willingness to allow such claims. However, as discussed below; Applicants' independent claims 1 and 18 patentably distinguish over the art as written. However, Applicants reserve the right to amend claims 2-6, 8-13 17, 17, 21, and 22 later if necessary.

In reviewing the Official action, Applicants became aware of a typographical error in claim 2 which they have corrected by amendment. Applicants have also amended claims 9 and 10 to correct the informalities noted by the Examiner. Additionally, Applicants have added new claims 23-27 to provide the full measure of patent protection to which they deem themselves entitled.

Objection to the Information Disclosure Statement

In response to the Examiner's comments concerning Applicants' Information Disclosure Form, filed May 18, 2007, Applicants have attached herewith a new Information Disclosure Statement containing a full description of those items omitted on the previously submitted form. Applicants presume that the Examiner considered those items initialed on the original form. If such is not the case, Applicants request that the Examiner notify Applicants accordingly.

Claim Objections

The Examiner has objected to claims 9 and 10, as containing certain informalities. In particular, the Examiner has objected to the phrase, "the message", in the first line of each claim and has requested Applicants correct that phrase to read, "a message". Applicants have amended claims 9 and 10, as suggested by the Examiner.

35 U.S.C. 103(a) Rejection of Claims 1, 7, 14-15 and 18-20

Claims 1, 7, 14-15 and 18-20 stand rejected over U.S. Patent 6,641,596 to Gray et al. in view of U.S. Patent 6,057,125 to May. In rejecting these claims, the Examiner contends that the Gray et al. patent teaches Applicants' steps of:

“receiving image information representative of an image from which film grain has been at least attenuated;

‘receiving film grain information that includes at least one parameter among a set of possible parameters specifying different attributes of the film grain previously in the image;

‘simulating the film grain in accordance with the selected model and the at least one parameter; and

‘merging the simulated film grain into the image.”

The Examiner acknowledges that the Gray et al. patent does not disclose selecting a model for simulating film grain. To supply this missing teaching of Gray et al., the Examiner relies on the May patent which makes reference to an article, “Estimation of Images degraded by Film Grain Noise”, by E. Naderi et al. That article proposes a model that makes use of a formula wherein the observed pixel value (y), constitutes the sum of the pixel value (X), and the product of the pixel value (X), and a random noise variable having a Gaussian or normal distribution. The Examiner contends that it would have been obvious to a skilled artisan to combine the Gray et al. and May patents to teach Applicants' claimed method of film grain simulation.

Applicants take issue with the Examiner's characterization of the Gray et al. patent. With regard to film grain simulation, the Gray et al. patent states at Col. 6, lines 34-49:

"The grain synthesis module 33 operates as follows: The input digital image is assumed to be effectively free of significant film-grain noise. This may be because the image is derived from an essentially noise-free source (e.g. an extremely fine-grain film), or because it has been preprocessed (e.g. by noise cleaning or by scanning to sufficient low-resolution to remove grain effects). At each pixel location in the input digital image (typically in a raster scan pattern for visiting each pixel location), for each color channel, a noise value is artificially generated by the computation device using a random-number generator which is then spatially filtered and scaled to produce a value similar to that expected of film grain for that type of film, scanner resolution, and color channel which is desired. This synthesized noise "count" value is

then added to the "clean" color-channel count value at that location and is written out to secondary storage."

The above-cited portion of the Gray et al. patent, identified by the Examiner, provides no disclosure or suggestion of Applicants' step of "simulating film grain" in accordance with the selected model and a parameter specifying a film grain attribute. As the Examiner acknowledges, Gray et al. do not teach selecting a particular model for film grain simulation. Further, the Gray et al. patent contains no disclosure or suggestion of the desirability of simulating film grain in accordance with both a selected model, and a parameter specifying an attribute of the film grain. As described in the Gray et al. patent, a random number generator generates a value that undergoes spatial filtering and scaling to yield a simulated film grain pattern. The Gray et al. patent contains no mention whatsoever of using any attributes of the film grain in the original image in connection with the film grain simulation.

With regard to the May patent, Applicants note that the Naderi et al. article, discussed in that patent, describes a filter for estimating and **removing** film grain according to the proposed model (see Col. 2, lines 7-10 of May). Indeed, the discussion at Col. 2, lines 15-17 of May clearly emphasizes the noise removal aspect of the Naderi et al. film grain simulation technique. The notion of modeling film grain for **removal** is clearly antithetical to the feature of, "merging the simulated film grain into the image", as recited in Applicants' claims 1 and 12 and the claims that depend therefrom. Therefore, Applicants question how a skilled artisan, having knowledge of the Gray et al. and May patents, would be led to combine the references to yield a technique for simulating film grain for merging into an image. For this reason, Applicants contend the Examiner's combination of Gray et al. and May fails, and so does the Examiner's prima facie case of obviousness under 35 U.S.C. 103(a).

Assuming arguendo, the propriety of the Examiner's combination of the Gray et al. and the May patents, the combination would still not teach all of the features of Applicants' claimed invention. As discussed above, the Gray et al. patent simply does not teach Applicants' feature of simulating the film grain in accordance with at least one parameter specifying an attribute of the film grain previously in the image, as recited in claims 1 and 18 and the claims that depend therefrom. Likewise, the May patent also fails to teach or suggest simulating the film grain in accordance with at least one parameter specifying an attribute of the film grain previously in the image. Therefore, given the failure of both references to teach all of the elements of claims 1 and 18, these claims, and claims 7, 14-15 and 18-20 that depend

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therefrom, patentably distinguish over the art of record. Applicants respectfully request withdrawal of the 35 U.S.C. 103(a) rejection of these claims.

Given that claims 1 and 18 patentably distinguish over the art of record, dependent claims 2-6, 8-13, 16, 17, 21 and 22 depend from allowable base claims, thus obviating the need to re-write these claims in independent form.

New Claims 23-27

Applicants have added new claims 23-27 to provide themselves the full measure of patent protection to which they deem themselves entitled. Newly submitted independent claim 23 patentably distinguishes over the art of record, because neither the Gray et al. nor the May patent teaches the step of simulating the film grain, in accordance with at least one parameter specifying an attribute of the film grain previously in the image. Claims 26 and 27 patentably distinguish over the art of record for much the same reasons that claims 9 and 10, respectively, were deemed allowable.

Conclusion


In view of the foregoing amendments to the claims and the accompany remarks, Applicants solicit entry of this amendment and allowance of the claims. If the Examiner cannot take such action, Applicants' attorney invites the Examiner to contact him at (609) 734-6820, for a telephonic interview.

Please charge the cost of the additional claims, and any other charges that may be due, to Deposit Account No. 07-0832 in accordance with the attached fee sheet.

Respectfully submitted,


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